

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P

Luminaire Tested: **4APN-X-42L835-UNV-ASY**

Issue Date: 06/06/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 06/06/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-X-42L835-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/  
ASYMMETRIC Lens  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

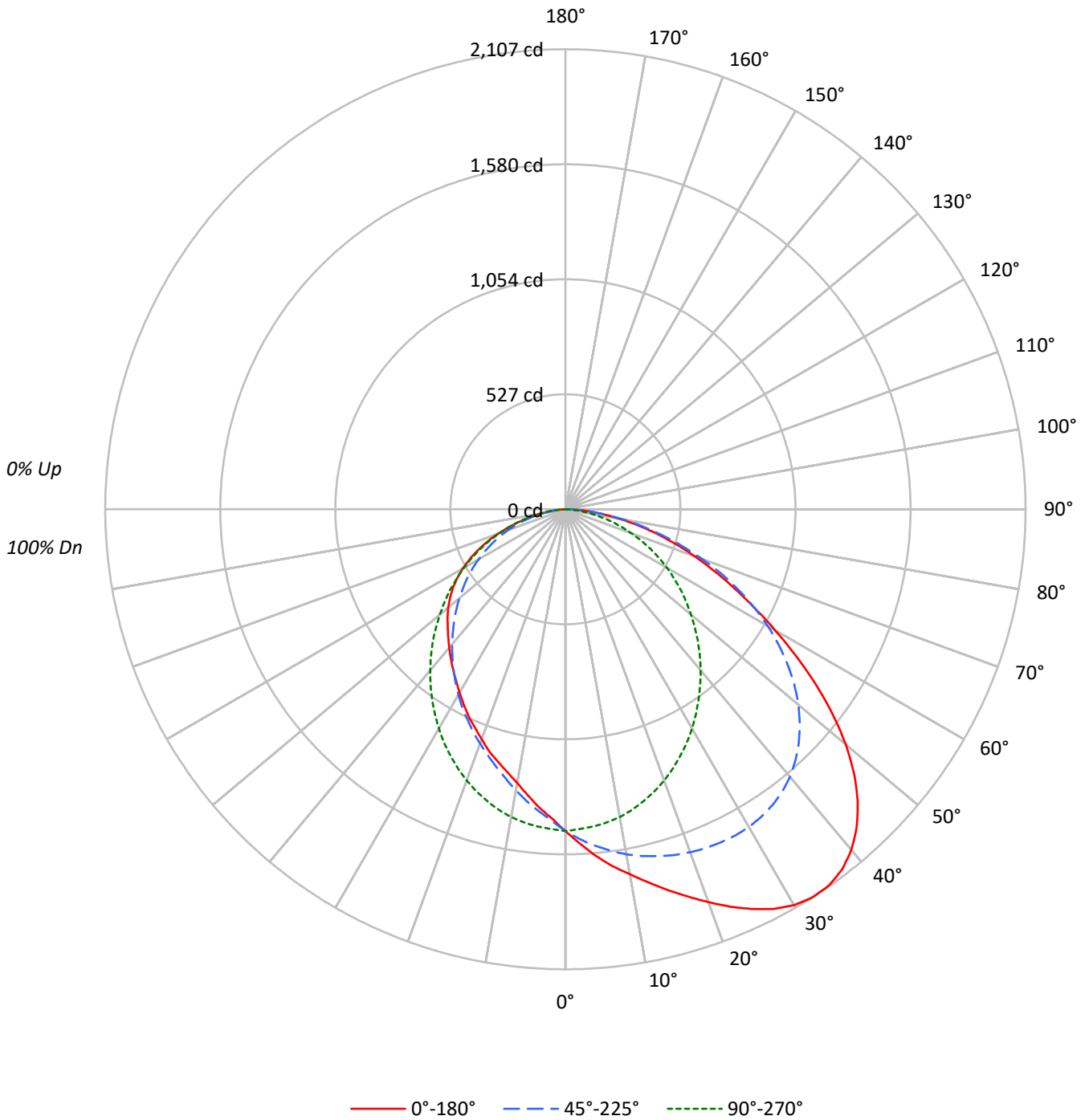
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4564.4 lumens  
Efficiency: N/A  
Efficacy: 98.8 lumens/watt  
Spacing Criteria (0/90/45): 1.53 / 1.18 / 1.46  
Luminous Opening: Rectangular (W 0.29' x L: 3.83' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	86	86	86	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	72	72	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	60	60	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	52	52	52	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	45	45	45	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	39	39	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	35	35	35	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	31	31	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	28	28	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	25	25	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	14187	14187	14187
5°	15394	14101	13252
10°	16585	13991	12434
15°	17989	13788	11922
20°	19614	13546	11480
25°	21457	13228	11124
30°	23276	12881	10767
35°	24722	12500	10535
40°	25599	12103	10398
45°	25778	11684	10373
50°	25101	11239	10487
55°	23504	10838	10553
60°	21365	10344	10450
65°	19372	9782	10044
70°	17731	9069	9224
75°	16088	8157	7930
80°	14071	6819	6110
85°	11841	4949	4551



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.0	3.1
10°-20°	407.0	8.9
20°-30°	637.7	14.0
30°-40°	799.4	17.5
40°-50°	851.1	18.6
50°-60°	768.3	16.8
60°-70°	568.7	12.5
70°-80°	312.1	6.8
80°-90°	80.1	1.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1184.7	26.0
0°-40°	1984.1	43.5
0°-60°	3603.4	78.9
0°-90°	4564.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4564.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1474	1474	1474	1474	1474	
5°	1593	1546	1459	1389	1371	155
15°	1805	1644	1383	1222	1196	515
25°	2020	1683	1245	1062	1047	935
35°	2104	1654	1064	893	896	1312
45°	1893	1511	858	719	762	1452
55°	1400	1244	646	547	629	1249
65°	850	876	429	370	441	848
75°	432	458	219	190	213	460
85°	107	105	45	42	41	127
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6
2.5°	1533.0	1529.9	1526.3	1525.1	1519.6	1512.4	1505.7	1505.7	1497.8	1479.1	1465.7
5°	1592.9	1588.1	1579.0	1571.7	1560.2	1546.3	1532.4	1523.9	1505.1	1476.6	1459.1
7.5°	1648.0	1642.0	1630.5	1616.6	1597.8	1577.2	1554.2	1536.0	1507.5	1469.4	1447.0
10°	1696.5	1691.0	1677.1	1660.2	1633.5	1604.4	1570.5	1543.3	1504.5	1457.3	1431.2
12.5°	1749.8	1744.3	1725.0	1702.0	1665.6	1626.8	1582.0	1544.5	1496.6	1439.7	1410.0
15°	1804.9	1797.6	1775.8	1745.0	1696.5	1644.4	1589.3	1540.8	1483.9	1418.5	1383.4
17.5°	1859.4	1852.2	1824.9	1785.5	1725.0	1660.2	1592.3	1532.4	1465.7	1392.5	1354.3
20°	1914.5	1907.3	1872.8	1823.1	1749.8	1671.7	1591.7	1519.6	1443.9	1362.8	1322.2
22.5°	1969.7	1961.2	1919.4	1858.8	1770.4	1679.5	1585.1	1502.1	1416.7	1328.9	1285.2
25°	2019.9	2011.5	1965.4	1894.0	1792.2	1683.2	1573.5	1477.9	1386.4	1291.3	1245.3
27.5°	2063.5	2053.2	2005.4	1926.7	1811.0	1684.4	1558.4	1450.6	1351.3	1250.7	1204.1
30°	2093.8	2084.7	2033.9	1949.7	1821.9	1680.1	1539.0	1418.5	1310.7	1207.1	1158.7
32.5°	2107.1	2099.3	2049.0	1960.6	1823.7	1669.2	1515.4	1382.8	1268.3	1161.1	1112.0
35°	2103.5	2095.6	2047.8	1958.8	1818.2	1653.5	1485.7	1342.2	1222.9	1113.2	1063.6
37.5°	2080.5	2071.4	2027.8	1942.4	1802.5	1630.5	1451.8	1298.0	1173.8	1064.2	1013.9
40°	2036.9	2027.8	1990.3	1911.5	1775.8	1599.6	1413.0	1250.7	1123.5	1012.7	963.0
42.5°	1974.5	1964.8	1935.1	1863.1	1737.7	1559.0	1368.8	1200.5	1070.2	963.0	910.9
45°	1893.3	1883.7	1863.7	1802.5	1688.0	1511.2	1318.6	1145.9	1014.5	906.7	858.2
47.5°	1792.8	1784.3	1774.6	1727.4	1626.8	1456.0	1262.2	1087.8	956.4	854.0	804.3
50°	1675.9	1667.4	1670.5	1638.4	1556.0	1392.5	1200.5	1026.6	896.4	795.3	750.4
52.5°	1543.3	1536.6	1551.1	1537.2	1473.6	1321.6	1134.4	963.6	835.2	739.5	696.5
55°	1400.3	1393.1	1420.9	1425.2	1381.5	1243.5	1059.3	898.2	773.4	685.0	645.7
57.5°	1253.1	1247.1	1282.8	1302.8	1281.0	1159.3	983.6	831.0	709.9	628.1	588.7
60°	1109.6	1104.8	1142.3	1175.0	1172.6	1070.2	904.9	758.3	646.3	570.5	537.2
62.5°	974.5	969.1	1006.6	1045.4	1059.3	975.1	826.7	686.8	582.7	513.0	483.3
65°	850.4	844.9	877.0	917.0	942.4	875.8	742.6	612.9	518.5	454.9	429.4
67.5°	736.5	736.5	756.5	793.4	824.3	774.1	656.6	542.7	452.4	401.0	375.5
70°	629.9	629.3	643.8	669.9	705.6	665.0	569.3	468.8	390.1	344.6	322.2
72.5°	528.8	533.0	538.4	558.4	596.0	560.9	482.7	396.1	328.9	288.9	270.1
75°	432.5	431.8	439.7	457.3	484.5	458.5	396.1	325.2	268.3	235.6	219.3
77.5°	340.4	339.8	346.4	356.7	379.8	359.2	312.5	259.8	209.0	181.7	170.2
80°	253.8	253.8	259.8	265.3	282.2	265.9	233.2	194.4	153.2	132.0	123.0
82.5°	176.3	179.9	177.5	184.7	194.4	180.5	159.9	133.2	101.8	87.2	81.2
85°	107.2	110.2	107.2	113.3	117.5	105.4	95.1	79.3	58.8	49.1	44.8
87.5°	55.1	54.5	53.9	56.9	58.1	50.9	44.8	38.2	26.0	20.0	17.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6	1473.6
2.5°	1457.9	1461.5	1456.0	1436.1	1428.2	1419.7	1416.1	1412.4	1419.1	1417.3
5°	1445.7	1441.5	1427.6	1402.1	1388.8	1374.9	1368.2	1364.0	1373.1	1371.3
7.5°	1429.4	1417.3	1396.7	1365.8	1348.8	1330.1	1321.0	1315.5	1321.6	1320.4
10°	1408.8	1388.8	1363.4	1326.4	1306.4	1285.9	1275.6	1267.7	1272.5	1271.9
12.5°	1382.8	1356.7	1325.8	1284.0	1263.4	1242.2	1233.2	1227.7	1233.8	1231.9
15°	1353.7	1322.2	1286.5	1244.1	1221.6	1202.3	1195.6	1191.4	1196.2	1196.2
17.5°	1321.6	1284.6	1245.3	1202.3	1181.1	1165.9	1159.3	1156.2	1158.7	1162.3
20°	1285.9	1244.7	1202.3	1160.5	1142.3	1126.6	1120.5	1117.5	1122.9	1120.5
22.5°	1246.5	1202.9	1158.7	1119.3	1102.9	1087.2	1081.1	1079.3	1085.4	1082.9
25°	1204.7	1157.4	1113.8	1078.1	1061.8	1048.4	1043.0	1041.2	1044.2	1047.2
27.5°	1165.3	1112.0	1069.0	1036.9	1022.4	1009.7	1004.8	1001.8	1004.2	1007.8
30°	1117.5	1066.0	1023.6	993.9	980.0	967.9	964.2	961.8	965.4	968.5
32.5°	1072.7	1020.6	978.2	949.1	937.0	925.5	924.9	923.7	927.9	931.5
35°	1024.2	973.3	932.1	904.9	893.4	883.7	885.5	887.3	892.2	896.4
37.5°	975.1	925.5	886.1	861.3	850.4	842.5	847.9	850.4	857.0	861.3
40°	925.5	875.8	839.5	817.1	806.2	802.5	810.4	815.8	823.7	827.4
42.5°	874.6	828.6	792.2	771.6	762.5	762.5	772.8	781.3	790.4	794.0
45°	823.7	778.9	744.4	725.6	718.9	723.8	735.9	746.8	758.3	761.9
47.5°	772.2	728.6	697.1	680.2	676.5	683.8	699.0	713.5	726.8	731.7
50°	720.8	681.4	649.9	634.1	634.1	643.2	662.6	680.8	695.3	700.2
52.5°	669.3	631.7	599.6	588.1	590.5	603.3	625.7	644.4	660.8	665.6
55°	617.2	580.2	552.4	542.7	546.9	562.7	585.7	607.5	623.2	628.7
57.5°	565.7	530.6	505.1	497.3	503.3	520.9	547.5	566.3	582.7	587.5
60°	513.6	477.9	457.9	451.8	459.7	477.9	505.1	522.7	537.8	542.7
62.5°	462.1	428.8	411.3	405.8	414.9	434.3	460.9	476.7	488.2	493.0
65°	410.0	380.4	364.0	360.4	370.1	388.8	414.3	427.6	436.1	440.9
67.5°	358.6	333.1	318.0	315.0	325.2	342.2	365.8	373.1	381.0	385.8
70°	307.7	284.7	271.9	270.1	279.2	295.6	315.6	319.2	323.4	327.7
72.5°	257.4	239.2	226.5	225.9	234.4	247.7	264.1	264.7	265.9	270.1
75°	209.0	192.6	182.9	184.7	189.6	200.5	213.2	209.6	210.2	213.2
77.5°	162.3	149.0	142.3	143.5	147.2	155.1	163.5	159.3	156.9	159.9
80°	116.9	105.4	103.0	103.6	106.0	111.4	116.3	112.7	107.8	110.2
82.5°	76.9	69.7	68.4	69.0	70.9	73.9	75.1	69.7	68.4	70.3
85°	42.4	39.4	39.4	41.2	41.8	42.4	42.4	39.4	40.0	41.2
87.5°	17.0	17.0	18.8	20.6	19.4	17.0	14.5	9.7	9.7	11.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)